

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 3, 2021/2022

BAC 2624 – MANAGEMENT ACCOUNTING 2

(All Sections / Groups)

15 AUGUST 2022
09.00 am. – 12.00 pm.
(3 Hours)

INSTRUCTION TO STUDENT

1. This Question paper consists of 9 pages (excluding cover page) with 4 Questions only.
2. Answer **ALL** Questions. The distribution of marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

QUESTION 1**PART A**

KDC Berhad manufactures silicon wafers for solar cells. The Operations Division runs on four major activities and cost pools. 100,000 units of its best-selling wafer, E-100, were produced in 2021 at an average direct cost of RM5 per unit.

The following manufacturing overhead data were reported for E-100 in 2021:

<u>Activity</u>	<u>Quantity of Cost Driver</u>	<u>Cost per Unit of Cost Driver</u>
Ordering	75	RM20 per order
Receiving and storage	50	RM100 per move
Production	4,500	RM500 per machine hour
Shipping	100	RM1,000 per shipment

Each E-100 wafer is sold at RM45 per unit. KDC Berhad requires a target operating income of 35% of its revenue annually.

Required:

- a) Calculate KDC Berhad's operating income for 2021. (2 marks)
- b) Suppose KDC Berhad is planning to reduce its selling price to RM40 per unit in 2022.
 - (i) What is the total target full cost of producing 100,000 units of E-100? (2 marks)
 - (ii) Would the cost estimate determined in b)(i) require the company to reduce its current costs allocation? (3 marks)
 - (iii) KDC Berhad plans to use value-engineering to reduce the manufacturing overhead costs as follows:

<u>Activity</u>	<u>Quantity of Cost Driver</u>	<u>Cost per Unit of Cost Driver</u>
Ordering	50	RM20 per order
Receiving and storage	50	RM50 per move
Production	4,000	RM500 per machine hour
Shipping	50	RM700 per shipment

Will KDC Berhad achieve its target operating income in (b)(i) with the change? (3 marks)

(Sub-total: 10 marks)

Continued...

PART B

KDC Berhad plans to develop a new e-wafer (E-200) to replace its older model (E-100). The following data projections are available:

Year	Months		Sales Unit	Variable Cost RM per unit	Fixed Costs RM
2022	6 to 12	Research and design			500,000
		Process design			150,000
		Marketing			10,000
2023	1 to 12	Production	100,000	10	42,000
		Administration			12,000
		Marketing			15,000
		Distribution		1	6,000
2024	1 to 12	Production	155,000	10	38,750
		Administration			12,000
		Marketing			15,000
		Distribution		2	6,000
		After-sales services			25,000
2025	1 to 12	Production	85,000	10	60,750
		Administration			6,000
		Marketing			10,000
		Distribution		1	6,000
		After-sales services			60,000
2026	1 to 6	Administration			6,000
		Distribution			6,000
		After-sales services			21,250

Required:

- a) If KDC Berhad prices the new e-wafers (E-200) at RM50 per unit, how much operating income will the company make over the new product's life cycle?

(13 marks)

- b) What is the life-cycle operating income per unit for E-200?

Round your answers to the nearest 2 decimal places.

(2 marks)

(Sub-total: 15 marks)

[TOTAL 25 MARKS]

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QUESTION 2**PART A**

Paddington Sdn. Bhd. has two divisions: Harvesting and Processing. The Harvesting division gathers ripe strawberries from a farm in Cameron Highlands to be processed into strawberry jams in the Processing division. The jams are sold to distributors in Selangor. Costs and market price data for the two divisions are as follows:

<u>Harvesting Division</u>	RM
Variable cost per kg of strawberries	4.50
Fixed cost per kg of strawberries	3.00
Selling price per kg of strawberries in local market	10.00
Selling price per kg of strawberries from competitors	8.00
<u>Processing Division</u>	RM
Variable processing cost per litre of jam produced	3.50
Fixed cost per litre of jam produced	5.00
Selling price per litre of jam	15.00

The Harvesting division is operating at full capacity of 1,000 kg a month.

Required:

- a) What is the minimum transfer price at which the Harvesting division would be willing to sell the strawberries to the Processing division?
(1.5 marks)
- b) What is the maximum transfer price at which the Processing division is willing to purchase the strawberries from the Harvesting division?
(1 mark)
- c) Suppose Paddington Sdn. Bhd. can sell only 80% of its Harvesting division's 1,000kg output in the local market.
 - (i) What is the minimum transfer price at which the Harvesting division would be willing to sell to the Processing division for 1,000kg of strawberries?
(2.5 marks)
 - (ii) Assume the internal transfers are made at market price. The Processing division is expected to sell 2,000 litres of jams to its distributors. What is the divisional operating income for Paddington Sdn. Bhd.?
(5 marks)

(Sub-total: 10 marks)

Continued...

PART B

Syarikat Quora fractions (processes) crude oil into various industrial products. Each barrel of crude oil is jointly processed to produce two saleable products (Fuel Oil and Diesel Oil) and one intermediate product (Kerosene). The intermediate product will be further processed separately to produce a higher-grade output, Kero-A.

In June 2022, the company reported the following production and sales data for processing 2,500 barrels of crude oil:

	<u>Fuel Oil</u>	<u>Diesel Oil</u>	<u>Kerosene</u>	<u>Kero-A</u>
Separable costs beyond split off point				RM300,000
Beginning inventory (barrels)	0	0	0	0
Production and sales (barrels)	500	800	1,200	1,000
Ending inventory (barrels)	0	0	0	0
Selling price per barrel	RM100	RM250		RM550

The joint costs from the process were at RM500,000.

Required:

- a) What is the difference between joint cost and separable cost?
(1 mark)
- b) Allocate the joint costs of RM100,000 between the Fuel Oil, Diesel Oil and Kero-A using the:
 - (i) sales value at split off method
 - (ii) NRV method
 (12 marks)
- c) Should Syarikat Quora have processed the Kerosene further?
Show workings where necessary to justify your answers.
(2 marks)

(Sub-total: 15 marks)

[TOTAL 25 MARKS]

Continued...

QUESTION 3**PART A**

Intan Berhad manufactures optical lenses. The following standards were adopted for each unit of its product, MATA-1, in June 2022:

	<u>Standard Price</u>	<u>Standard Quantity</u>
Direct materials	RM50 per piece	2 pieces
Direct labour	RM15 per hour	3 hours
Variable manufacturing overhead	RM5 per hour	3 hours
Fixed manufacturing overhead	RM10 per hour	3 hours

Budgeted annual production for MATA-1 is at 12,000 units a year. Actual results for June 2022 were as follows:

Production	950 units
Direct materials purchased	RM101,000 for 2,000 pieces
Direct labour used	RM43,500 for 2,900 hours
Variable manufacturing overhead	RM13,050
Fixed manufacturing overhead	RM29,000

Required:

Determine the following variances:

- (i) Direct materials (flexible budget) variance (1 mark)
- (ii) Direct labour (flexible budget) variance (1 mark)
- (iii) Variable overhead spending variance (2 marks)
- (iv) Variable overhead efficiency variance (2 marks)
- (v) Fixed overhead spending variance (2 marks)
- (vi) Fixed overhead production volume variance (2 marks)

(Sub-total: 10 marks)

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PART B

Padi Berhad is considering to invest in a new machine (harvester) to replace its old machine (harvester) for its paddy fields in 2023. The owner believes that upgrading the old machine (harvester) would be a better option than replacing it. The following data on the two options is available:

	Upgrade	Replace
Initial investment	RM45,300	RM66,300
Terminal disposal value	RM8,000	RM16,000
Useful life	5	5
Annual expected cash inflow	RM75,000	RM100,000
Annual expected cash outflow	RM20,000	RM15,000

Padi Berhad uses a straight-line depreciation, assuming zero terminal disposal value. The required rate of return is 10%. Income tax rate is at 25%. Assume there is no tax impact on the gain or loss on disposal of either machine (harvester).

Required:

a) Calculate the:

(i) cash flows from investment

(8 marks)

(ii) net present value

(6 marks)

for each alternative.

b) Is the owner's opinion on the choice of upgrading justified? Explain.

(1 mark)

(Sub-total: 15 marks)

[TOTAL 25 MARKS]

Continued...

QUESTION 4**PART A**

Milo Sdn. Bhd. purchases air purifiers at a RM1,500 per unit from a wholesaler in Japan. Each unit of the air purifier are sold to the local customers at RM2,500 per unit. The annual demand for the air purifier averages at 2,250 units. The following inventory costs are recorded for each unit of the air purifier annually:

Ordering costs	RM10,000
Carrying costs	RM500

The air purifiers are sold at a rate of 100 units a month. During seasonal sales months, Milo Sdn. Bhd. is able to sell a total of 150 units a month. It takes 1.5 months from the time of order to the arrival of the order from Japan.

Required:

- a) Using the EOQ model, what is the optimal order quantity for Milo Sdn. Bhd.? (2 marks)
 - b) What is the relevant total cost of ordering and carrying inventory based on the EOQ determined in a)? (5 marks)
 - c) Compute the reorder point with safety stock for the air purifiers. (3 marks)
- (Sub-total: 10 marks)

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PART B

Syarikat Della, a car manufacturer, uses a JIT production system and backflush costing with three trigger points:

- Purchase of direct materials
- Completion of good finished units of product
- Sale of finished goods

Standard cost per car is budgeted at RM55,000 for direct materials, and, RM15,000 for conversion cost. The following information is available for August 2022:

Direct materials purchased	RM35,000,000
Conversion costs incurred	RM10,000,000

At the beginning of August, there were no beginning inventories. 500 cars were produced in August with 450 units sold.

Required:

- a) Prepare the journal entries to record the August transactions.
(9 marks)
- b) Journalise the disposition of under- or overallocated conversion costs.
(3 marks)
- c) If Syarikat Della uses a two trigger points instead for making entries in the accounting system:
 - Purchase of direct materials
 - Sale of finished goods

Prepare the journal entries to record the disposition of under- or overallocated conversion costs.

(3 marks)

(Sub-total: 15 marks)

[TOTAL 25 MARKS]

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APPENDIX

Present Value of \$1.00

$$P = \frac{S}{(1+r)^n}$$

In this table $S = \$1.00$.

Periods	2%	4%	6%	8%	10%	12%	14%	16%	18%
1	0.980	0.962	0.943	0.926	0.909	0.893	0.877	0.862	0.847
2	0.961	0.925	0.890	0.857	0.826	0.797	0.769	0.743	0.718
3	0.942	0.889	0.840	0.794	0.751	0.712	0.675	0.641	0.609
4	0.924	0.855	0.792	0.735	0.683	0.636	0.592	0.552	0.516
5	0.906	0.822	0.747	0.681	0.621	0.567	0.519	0.476	0.437
6	0.888	0.790	0.705	0.630	0.564	0.507	0.456	0.410	0.370
7	0.871	0.760	0.665	0.583	0.513	0.452	0.400	0.354	0.314
8	0.853	0.731	0.627	0.540	0.467	0.404	0.351	0.305	0.266
9	0.837	0.703	0.592	0.500	0.424	0.361	0.308	0.263	0.225
10	0.820	0.676	0.558	0.463	0.386	0.322	0.270	0.227	0.191

Present Value of Annuity \$1.00 in Arrears*

$$P_n = \frac{1}{r} \left[1 - \frac{1}{(1+r)^n} \right]$$

Periods	2%	4%	6%	8%	10%	12%	14%	16%	18%
1	0.980	0.962	0.943	0.926	0.909	0.893	0.877	0.862	0.847
2	1.942	1.886	1.833	1.783	1.736	1.690	1.647	1.605	1.566
3	2.884	2.775	2.673	2.577	2.487	2.402	2.322	2.246	2.174
4	3.808	3.630	3.465	3.312	3.170	3.037	2.914	2.798	2.690
5	4.713	4.452	4.212	3.993	3.791	3.605	3.433	3.274	3.127
6	5.601	5.242	4.917	4.623	4.355	4.111	3.889	3.685	3.498
7	6.472	6.002	5.582	5.206	4.868	4.564	4.288	4.039	3.812
8	7.325	6.733	6.210	5.747	5.335	4.968	4.639	4.344	4.078
9	8.162	7.435	6.802	6.247	5.759	5.328	4.946	4.607	4.303
10	8.983	8.111	7.360	6.710	6.145	5.650	5.216	4.833	4.494

End of Paper.